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File: EPAB

Aug 29, 1985

**Preferences****Logout** GB002153692ADOCUMENT-IDENTIFIER: GB 2153692 A

TITLE: Floating toys

PUBN-DATE: August 29, 1985

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APPL-NO: GB08334113

APPL-DATE: December 21, 1983

PRIORITY-DATA: GB08334113A (December 21, 1983)

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EUR-CL (EPC): A63H023/04; A63H029/24

## ABSTRACT:

A floating toy incorporating a power supply circuit, said circuit being arranged to be made by upward movement of a float 14 housed in a flotation chamber 10 open to the exterior of the toy via holes 13 below the intended waterline 18, whereby the circuit is made when the toy is floating, bridging bar 17 carried by the float connecting contacts 12, 13. An electric motor is then energised and drives a

propeller.

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# (12) UK Patent Application (19) GB (11) 2 153 692 A

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(52) Domestic classification  
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GB 1591084

(58) Field of search  
A6S

## (54) Floating toys

(57) A floating toy incorporating a power supply circuit, said circuit being arranged to be made by upward movement of a float 14 housed in a flotation chamber 10 open to the exterior of the toy via holes 13 below the intended waterline 18, whereby the circuit is made when the toy is floating, bridging bar 17 carried by the float connecting contacts 12, 13. An electric motor is then energised and drives a propeller.

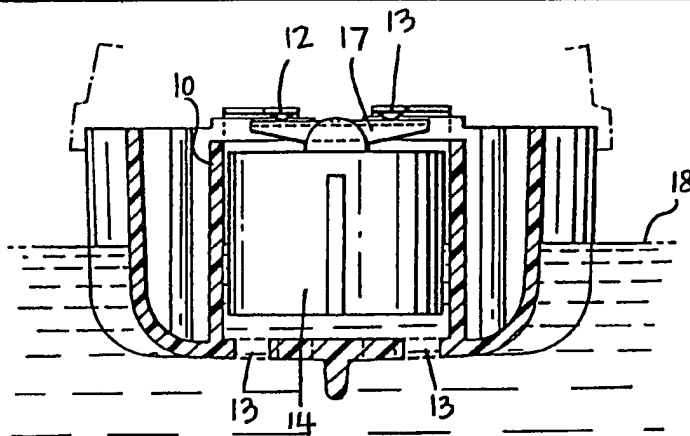
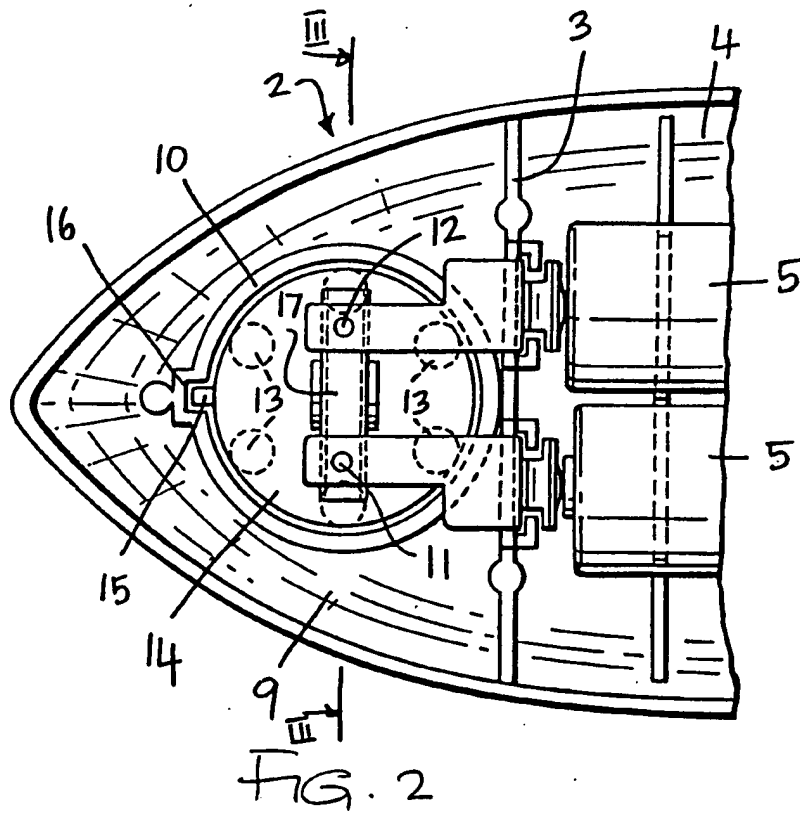
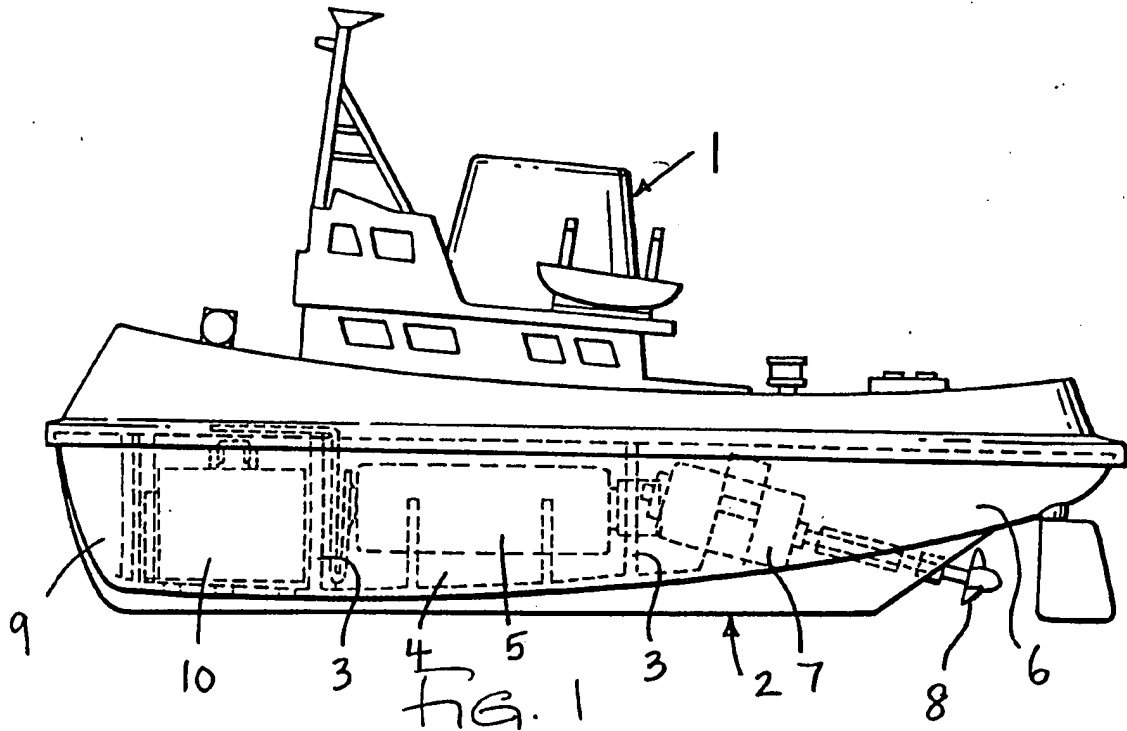


Fig. 4

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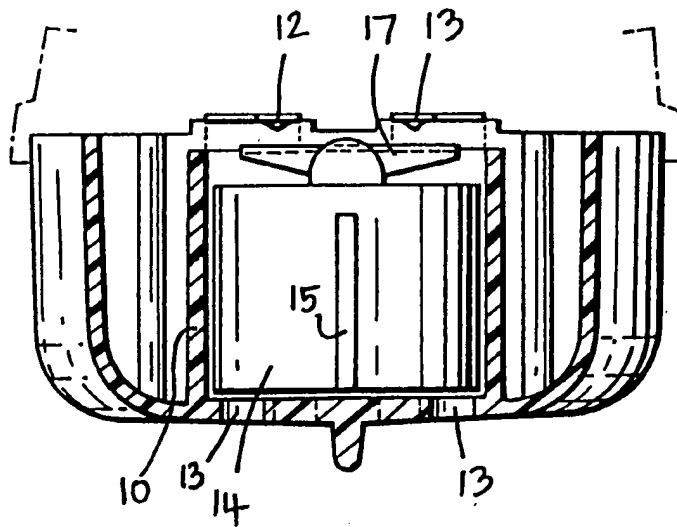


FIG. 3

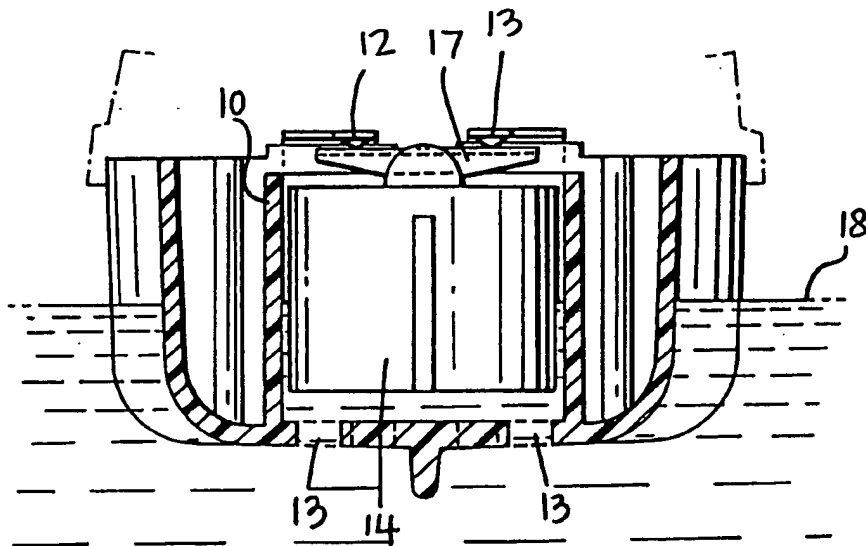


FIG. 4

## SPECIFICATION

## Floating toys

5 This invention relates to floating toys incorporating an electrical circuit and has as its principal object to provide an improved arrangement for making the said circuit such a toy.

According to the invention there is provided a  
10 floating toy incorporating an electrical circuit, said circuit being arranged to be made by upward movement of a float housed in a flotation chamber open to the exterior of the toy below the intended waterline, whereby the circuit is automatically  
15 made when the toy is floating.

The said circuit can be arranged to power any desired parts of the toy, such as movable parts thereof, or stationary parts such as a lighting or sound system. In one form of the invention it powers an electric motor for driving the propeller of a  
20 toy boat, whereby the propeller is automatically energised as soon as the boat is placed in the water, and automatically de-energised when it is removed therefrom.

25 The means for making the circuit may be of any suitable kind. In a preferred form of the invention the circuit includes a pair of fixed contacts overlying the said floating chamber, and conducting means carried by the float for engagement across  
30 said contacts upon upward displacement of the float.

Preferably the said float is a close fit laterally in the said flotation chamber so as to be movable therein substantially only vertically.

35 Preferably the toy includes means preventing substantial rotary movement of the float about a vertical axis. This is not essential however as the said contacts could of course be concentrically circular.

40 When the said toy is a toy boat and the said circuit includes a battery-driven electric motor arranged to drive a propeller, the boat preferably has a battery compartment amidships, a compartment containing the said electric motor astern of the battery compartment, and a compartment containing  
45 the said flotation chamber forward of the battery compartment, all of said compartments being separated by watertight bulkheads.

50 Preferably all of the specified parts of a toy boat according to the invention are provided in a lower hull of the boat, which is adapted to releasably receive different superstructure assemblies to make up different boats.

An embodiment of the invention will now be described by way of example and with reference to the accompanying drawings, in which:-

*Figure 1* is a side elevation of a toy boat according to the invention, indicating the arrangement of parts within the hull;

60 *Figure 2* is a plan view of the interior of the forward part of the hull of the boat of *Figure 1*, the superstructure being removed;

*Figure 3* is a section on the line III-III of *Figure 2*, showing the position of the parts when the boat is  
65 out of the water; and

*Figure 4* is a view similar to *Figure 3* but with the boat in the water.

Referring to the drawings, a toy tug-boat according to the invention has a superstructure 1 releasably mountable on a lower hull 2 divided by two watertight bulkheads 3 into a midships compartment 4 for a pair of dry batteries 5, a stern compartment 6 housing a miniature electric motor 7 driving a propeller 8, and a forward compartment 9 containing a cylindrical tank 10 defining a flotation chamber. Two fixed contacts 11, 12 of the power supply circuit for the propeller 8 are connected to positive and negative terminals of the respective batteries and overlie the open top of the flotation chamber 10 which is also open downwards to the exterior through four holes 13 in the bottom of the hull and houses a cylindrical float 14. The float 14 is freely movable vertically in the chamber 10 but held against rotation by a key 15 engaging in a keyway 16 formed in the chamber wall, and carries a movable switch contact in the form of a conducting strip 17 which engages and interconnects the contacts 11, 12 to make the circuit upon upward movement of the float. When the  
70 boat is not in the water the float 14 sits on the bottom of the flotation chamber 10, as shown in *Figure 3*, with the conducting strip 17 out of engagement with the contacts 11, 12. However, when the boat is made to float in water, as seen in  
85 *Figure 4*, water enters the flotation chamber through the holes 13 and fills it up to the waterline 18, thus causing the float to move upwardly and make the circuit by interconnecting the contacts 11, 12.

100 Access to all of the working parts in the lower hull 2 is of course obtained by removing the superstructure 1. The hull 2 is able to receive different superstructures to enable different types of boat to be made up using a common hull.

## CLAIMS

1. A floating toy incorporating an electrical circuit, said circuit being arranged to be made by upward movement of a float housed in a flotation chamber open to the exterior of the toy below the intended waterline, whereby the circuit is automatically made when the toy is floating.

2. A toy as claimed in claim 1, wherein the circuit includes a pair of fixed contacts overlying the said flotation chamber, and conducting means carried by the float for engagement across said contacts upon upward displacement of the float.

3. A toy as claimed in claim 2, wherein the said float is a close fit laterally in the said flotation chamber so as to be movable therein substantially only vertically.

4. A toy as claimed in claim 2 or 3, including means preventing substantial rotary movement of the float about a vertical axis.

5. A toy as claimed in claim 4, wherein both the float and the flotation chamber are substantially circular-cylindrical in horizontal section, and are provided with a key and associated key-way to prevent rotation of the float.

130

6. A toy as claimed in any of the preceding claims, which comprises a toy boat.

7. A toy as claimed in claim 6, wherein the said circuit includes a battery-driven electric motor arranged to drive a propeller.

8. A toy as claimed in claim 7, having a battery compartment amidships, a compartment containing the said electric motor astern of the battery compartment, and a compartment containing the said flotation chamber forward to the battery compartment, all of said compartments being separated by watertight bulkheads.

9. A toy as claimed in any of claims 6 to 8, wherein the said flotation chamber is open to the exterior through the bottom of the hull of the boat.

10. A toy as claimed in any of claims 6 to 9, wherein all of the specified parts are provided in a lower hull of the boat, which is adapted to releasably receive different superstructure assemblies to make up different boats.

11. A floating toy substantially as hereinbefore described with reference to the accompanying drawings.

12. A lower hull assembly for a toy boat, substantially as hereinbefore described with reference to the accompanying drawings.

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File: EPAB

Apr 23, 1986

PUB-NO: GB002165766A

DOCUMENT-IDENTIFIER: GB 2165766 A

TITLE: Diving toy

PUBN-DATE: April 23, 1986

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APPL-NO: GB08522635

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PRIORITY-DATA: GB08426772A (October 23, 1984)

INT-CL (IPC): A63H 23/08

EUR-CL (EPC): A63H023/04

## ABSTRACT:

A diving toy has a motor operated by one or more batteries, a weight (15) located at an appropriate position within the toy so that the battery loaded toy will have a value of specific gravity approaching 1, a head portion (30), a body portion (10, 20) and a tail portion (40, 42, 50), the tail portion having a horizontally disposed rudder (51) pivotable about a horizontal axis, a vertically disposed rudder (50) pivotable about a vertical axis, and which pivotable movements are independent of one another and enable the rudders (50, 51) to be turned from one position to another so as to control and vary the course of the diving course and depth of the toy in water. The diving toy is capable of diving and ascending

automatically and repeatedly in water when driven by the motor.

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